

## CLASS SPECIFICATION

### SAN DIEGO CITY CIVIL SERVICE COMMISSION

#### JUNIOR CHEMIST

##### DEFINITION:

Under immediate supervision, and in a training capacity, to perform professional level physical and chemical analyses in a State certified chemical laboratory on potable water, wastewater, industrial waste, and ocean samples; to assist in more difficult chemical analyses; and to perform related work.

##### \* EXAMPLES OF DUTIES:

- Samples and performs chemical tests and analyses of potable water, wastewater and other substances;
- Determines whether treated sewage effluent meets City, State and Federal guidelines of biochemical oxygen demand, pH, ammonia, suspended solids and cyanide;
- Analyzes potable water to measure levels of plankton and various chemicals;
- Determines suitability of treated wastewater for use in irrigation;
- Analyzes potable water and wastewater to identify heavy metals, herbicides and pesticides and other petrochemical and biochemical pollutants;
- Performs spectrophotometric and emission spectrophotometric analyses;
- Evaluates functions of a treatment facility through monitoring equipment;
- Samples and analyzes industrial discharges for compliance with City, State and Federal standards;
- Performs applied research on water and wastewater treatment methods;
- Operates complex analytical equipment such as microcomputers, gas chromatograph/mass spectrophotometers, gas chromatographs, atomic absorption spectrophotometers, ion chromatographs, gas chromatograph/ infrared spectrophotometers and ultraviolet/visible spectrophotometers;
- Performs dioxin analyses;
- Prepares data and organizes information for reports and evaluations;
- Maintains technical records;
- Prepares samples and performs routine bacteriological tests;
- Conducts tours of laboratories and facilities for the public and professional visitors;
- Enters analytical data into computers;
- Writes and modifies routine application programs for computer systems.

##### MINIMUM QUALIFICATIONS:

Please note: the minimum qualifications stated below are a guide for determining the education, training, experience, special skills, and/or license which may be required for employment in the class. These are re-evaluated each time the position is opened for recruitment. Please refer to the most recent Job Announcement for updated minimum qualifications.

A Bachelor's degree in Chemistry, Physical Chemistry, Analytical Chemistry or a closely related physical science field, which must include a minimum of 24 semester/36 quarter college credits in chemistry with coursework completed in either Instrumental Methods, Analytical Chemistry, or Physical Chemistry; **OR** four years of full-time experience as a laboratory technician in a water or wastewater environmental laboratory, which must include work in all of the following areas: chemical analysis of samples; use of either Atomic Absorption Spectrophotometer (AA), Gas Chromatograph (GC), Inductively Coupled Plasma (ICP) Spectrometer, Ion Chromatograph (IC), Total Organic Carbon Analyzer (TOC), Flow Injection Analyzer, or Segmented Flow Analyzer; **and** performing mathematical calculations; **AND** completion of a minimum of 8 semester/12 quarter college credits in chemistry coursework as described above; **OR** any equivalent combination of the above education and experience which must include a minimum of 8 semester/12 quarter college credits in chemistry as described above.

- \* **EXAMPLES OF DUTIES** performed by employees in this class. The list may not include all required duties, nor are all listed tasks necessarily performed by everyone in this class.